

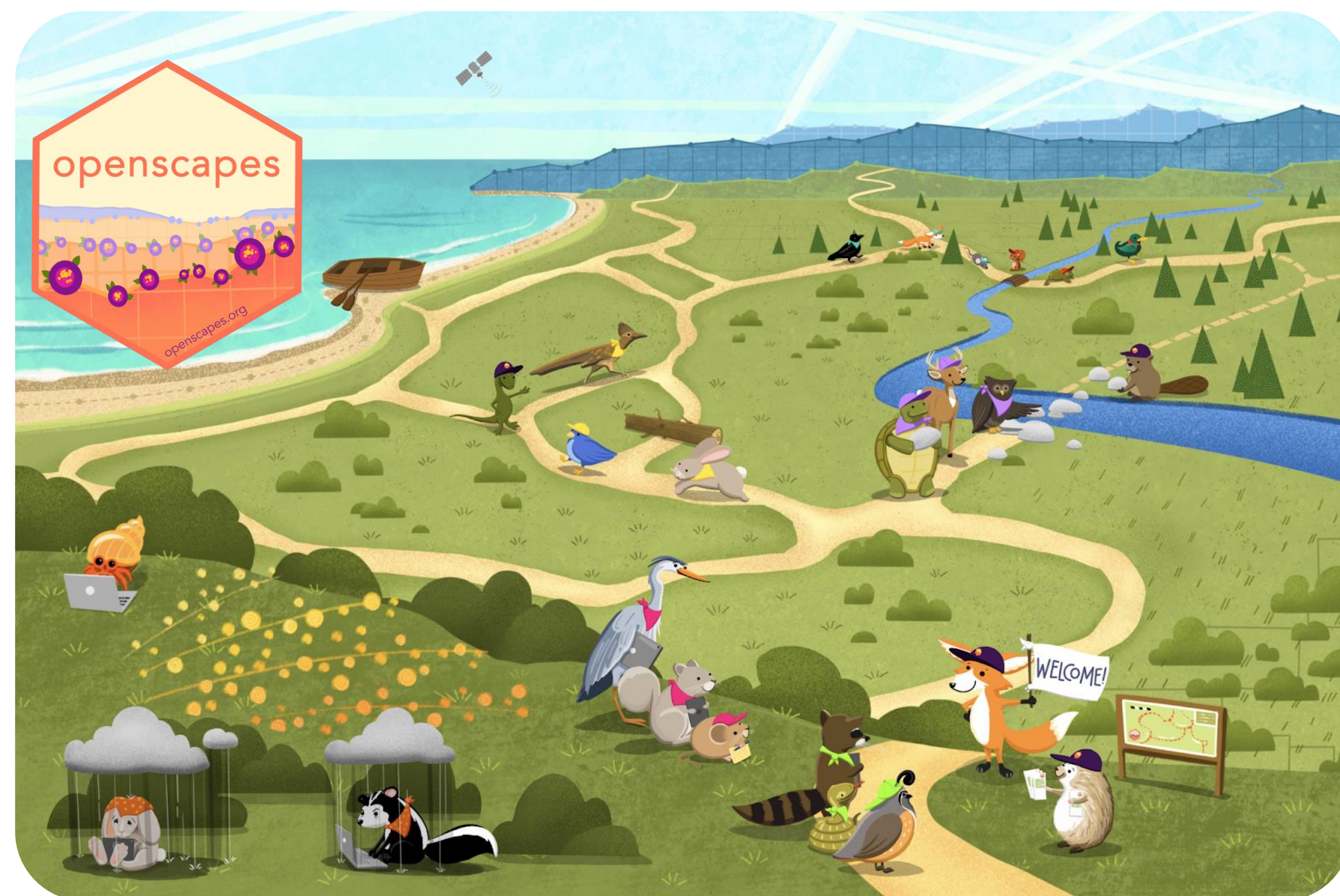
Embracing Open Science at the LP DAAC: Successes, Challenges, and Opportunities

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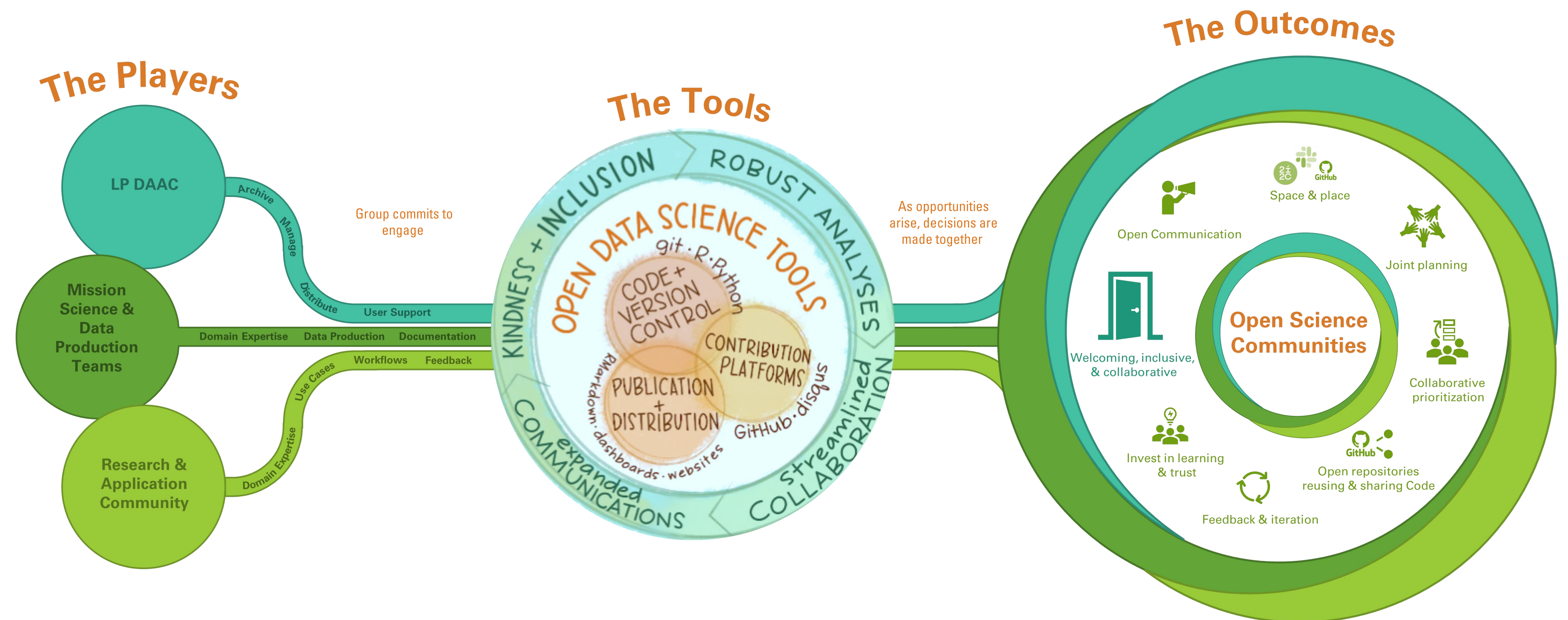
Summary

NASA's Land Processes Distributed Active Archive Center (LP DAAC) is a hub for land remote sensing data and has started applying open science principles, practices, and frameworks more broadly. Together with Openscapes, Mission Science teams, partner archives, and individuals, LP has seen the potential for open science to accelerate innovation, discovery, and empowerment. Here we present the mindset and trajectory we have and will continue to use to explore open science across our communities.



Science can be lonely and demoralizing.

Open Science approaches are collaborative and empowering. Diverse inclusive teams are key.



The Openscapes Approach

Open Science Communities are groups of people openly creating, sharing, teaching, and collaborating around shared interests, with a culture of shared & continued learning; prioritizing diversity, equity, and belonging.

Diverse Perspectives

Organizations may have similar goals but rarely pursued them together. Without cooperation, the scope and quality of efforts is more likely to be more difficult and lacking impact in comparison to what is possible with diverse minds.

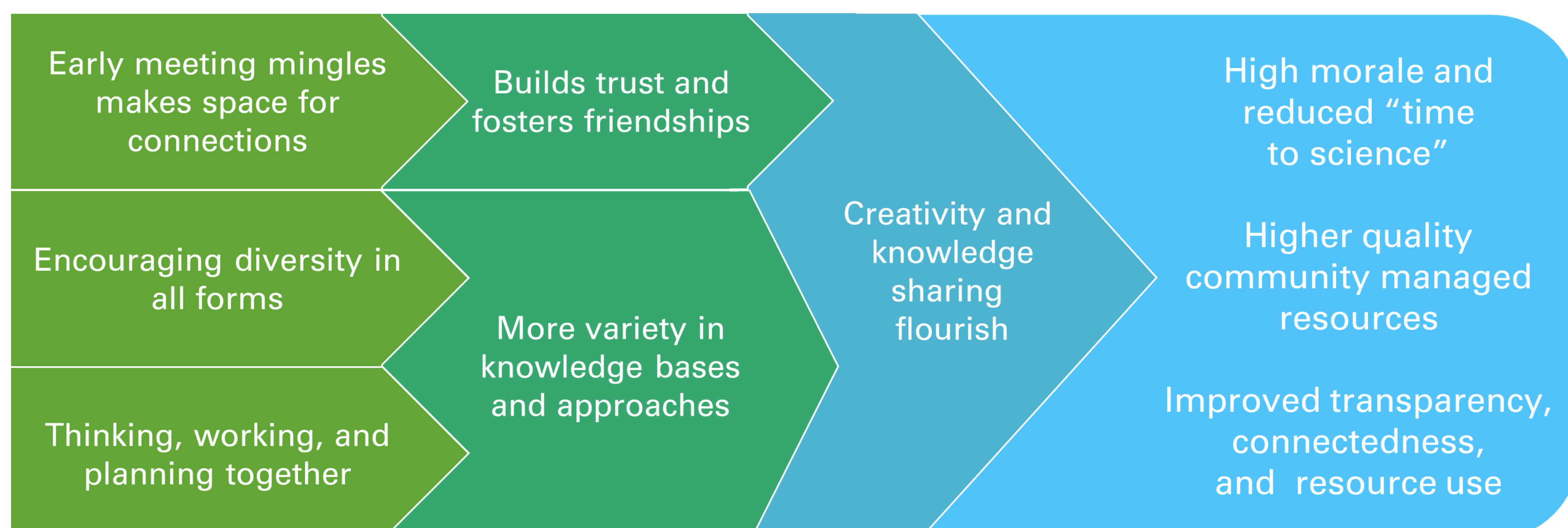
Structural Consistency

People and organizations have different lived experiences and norms. Providing *extremely* consistent, accessible, and friendly spaces to experience the fullness of cooperation lets everyone engage at their own pace. Consistency converts skeptics and there are specific plans to co-develop resources.

Better for everyone

The accumulation of individual and group successes facilitates a large-scale change in organizational and individual mindset has beneficial effects for everyone involved. Positive environments facilitate the production of timely reproducible resources attract more people, ideas, and resources that sustainably grown into better outcomes for more people.

Successes



Challenges

- Adoption and comfort with Git and GitHub
- Breaking down complex topics
- Organizing resources / reducing duplication
- Making diverse resources (Python, R, etc.)
- Managing resource updates, issues, and pull requests (PRs)
- Confidence in sharing code
- Mission oriented funding for outreach and community participation

Opportunities

- Integrate Git and GitHub into skillset
- Co-develop tools and packages that meet community needs
- Increase accessibility of science concepts
- Increase accessibility of remote sensing data to new people
- How to quantify the successes of open science (in short term and long term)?